Automated Reconfigurable Mission Adaptive Digital Assembly Systems (ARMADAS)

Completed Technology Project (2017 - 2021)

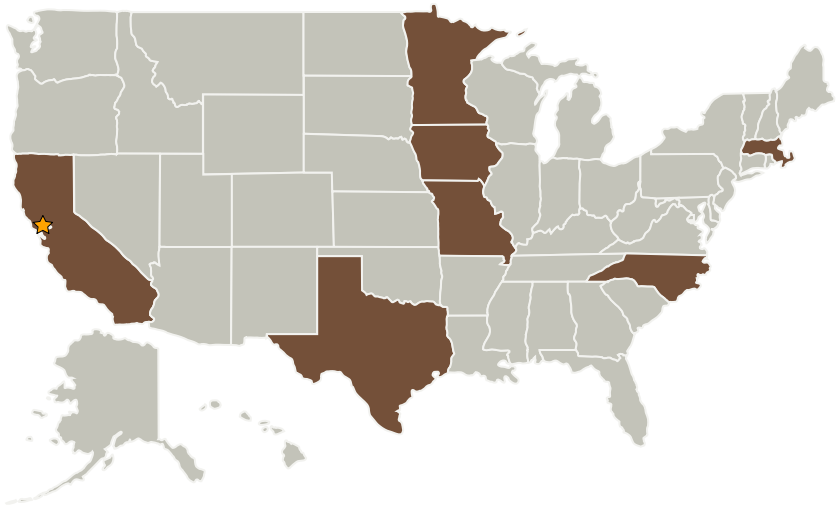
Project Introduction

To meet the needs of future deep space exploration, NASA is interested in large-scale hardware systems in the agency's thrust areas of solar power, communications, habitats and science interests. Scalable in-space and surface assembly of physical systems is critical to massless exploration and in-space/surface reliance goals.

Anticipated Benefits

Lifecycle Materials and Infrastructure Cost, System Scalability, Moon/Lunar Infrastructure, Orbital Infrastructure

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Duke University	Supporting Organization	Academia	Durham, North Carolina
Massachusetts Institute of Technology(MIT)	Supporting Organization	Academia	Cambridge, Massachusetts
St. Thomas University	Supporting Organization	Academia Hispanic Serving Institutions (HSI)	Miami Gardens, Florida
University of Houston	Supporting Organization	Academia Asian American Native American Pacific Islander (AANAPISI), Hispanic Serving Institutions (HSI)	Houston, Texas
Zahner	Supporting Organization	Industry	

Co-Funding Partners	Type	Location
Department of Defense(DoD)	US Government	Washington, District of Columbia

Primary U.S. Work Locations	
California	Iowa
Massachusetts	Minnesota

Continued on following page.

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Game Changing Development

Project Management

Program Director:

Mary J Werkheiser

Program Manager:

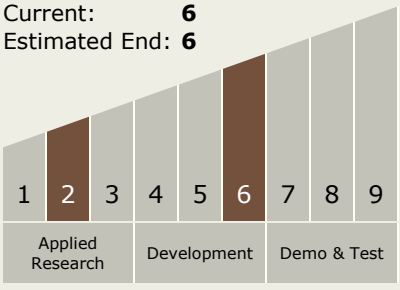
Gary F Meyering

Project Managers:

Elizabeth M Taylor
Kenneth C Cheung

Technology Maturity (TRL)

Start: **2**
Current: **6**
Estimated End: **6**



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Primary U.S. Work Locations *(cont.)*	
Missouri	North Carolina
Texas	

Project Website:

https://www.nasa.gov/directorates/spacetech/game_changing_development/in

Technology Areas

Primary:

- TX10 Autonomous Systems
  - TX10.4 Engineering and Integrity
    - TX10.4.5 Architecture and Design of Autonomous Systems

Other/Cross-cutting:

- TX04 Robotic Systems
- TX06 Human Health, Life Support, and Habitation Systems
- TX07 Exploration Destination Systems
- TX11 Software, Modeling, Simulation, and Information Processing
- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
- TX13 Ground, Test, and Surface Systems

Target Destinations

The Moon, Mars, Earth

Supported Mission Type

Push